

respectfully requested.

Entry of this Amendment is proper under 37 C.F.R. §1.116(a) because the Amendment: (a) places the application in condition for allowance as discussed below; (b) does not raise any new issues requiring further search and/or consideration; and (c) places the application in better form for appeal, should an appeal be necessary.

Claims 20-23 are rejected under 35 U.S.C. §112, first paragraph. Claims 20-25 are rejected under 35 U.S.C. §112, second paragraph. By this amendment the specification and claim 20 have been amended for clarification. Accordingly, Applicants respectfully request withdrawal of these rejections.

Claims 14, 19, 20-23 and 26 are rejected under 35 U.S.C. §102(b) as being anticipated by Caletka et al. (US 6,247,474, hereinafter "Caletka"). Claims 14-19, 24 and 25 are rejected under 35 U.S.C. §103(a) as being unpatentable over Chiyoishi (JP 03-004545) in view of Shirai et al. (US 5,517,756, hereinafter "Shirai").

Applicants respectfully assert that the references, taken alone or in combination, fail to teach or suggest each and every feature of the claimed invention as required under §§102(b) and 103(a). Applicants further assert that the Office has failed to establish a *prima facie* case of obviousness in support of the §103(a) rejections. For example, Caletka, Chiyoishi and Shirai,

alone or in combination, fail to teach or suggest, *inter alia*, a mask having elongated openings, as recited in claims 14 and 24, nor orienting a first direction of the openings in the direction of highest stress, as recited in claims 20 and 24.

In contrast, Caletka teaches a mask having circular, not elongated, openings. Furthermore, the size of the circular openings of Caletka vary based on location, but the openings of Caletka do not have a first dimension and a second dimension, wherein the first dimension is larger than the pad, or the second dimension, and wherein the first dimension is oriented in a direction of highest stress.

With regard to Shirai, the pads may be considered elongated, but the mask openings of Shirai are square, not elongated, as required by claims 14 and 24. Furthermore, Chiyoshi and Shirai make no mention of orienting an opening of the mask in a direction of highest stress.

Accordingly, Applicants respectfully request withdrawal of all rejections and submit that the entire application is in condition for allowance. However, should the Examiner believe anything further is necessary in order to place the application in better condition for allowance, or if the Examiner believes that a telephone interview would be advantageous to resolve the issues presented, the Examiner is invited to contact the Applicants' undersigned representative at the telephone number listed below.

Respectfully submitted,



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AMENDED MATERIAL

IN THE SPECIFICATION:

The paragraph beginning on page 7, line 14 through page 8, line 5, of the specification has been amended as follows:

Fig. 3 shows the second surface 18 of the chip carrier 14 (refer to Fig. 1) covered with a mask 26. Similarly, Fig. 4 shows the first surface 24 of the board 20 covered with a mask 28. The masks 26, 28 have elongated non-circular, oblong, oval, or elliptical openings 30 located over the conductive pads 16, 22. As illustrated in Fig. 5, the elongated openings 30 within the masks 26, 28 covering the conductive pads 16, 22, respectively, have a first dimension 36 that is greater than the diameter 38 of the conductive pads 16, 22. The regions of the conductive pads 16, 22 proximate the major axis 32 of the conductive pads 16, 22 are exposed or "un-captured" by the masks 26, 28. In contrast, the minor axis 34 has a second dimension 40 that is less than the diameter 42 of the conductive pads 16, 22. In regions 44, the conductive pads 16, 22 are partially covered or "captured" by the masks 26, 28.

IN THE CLAIMS:

14. (Twice Amended) An integrated chip package comprising:  
a first substrate and a second substrate[], wherein the first

and second substrates include a plurality of partially captured pads];

a mask on a surface of at least one of the first and second substrates, wherein the mask includes a plurality of elongated openings; and

a plurality of interconnections between the first and second substrates.

15. (Amended) The integrated circuit chip package of claim 14, wherein the plurality of partially captured pads are formed by a mask having [elongated] non-circular mask openings.

16. (Amended) The integrated circuit chip package of claim 15, wherein the [elongated non-circular] mask openings have a first dimension and a second dimension.

17. (Amended) The integrated circuit chip package of claim 16, wherein the first dimension of the [elongated non-circular] mask openings is greater than the second dimension of the [elongated non-circular] mask openings.

18. (Amended) The integrated circuit chip package of claim 16, wherein the first dimension of the [elongated non-circular] mask openings is selectively oriented on the substrate in the direction of highest stress within each interconnection.

20. (Twice Amended) A substrate having a plurality of [non-directional] conductive pads and a mask thereon, wherein the mask has a plurality of openings having a first dimension larger than a diameter of the conductive pad, and a second dimension smaller than the diameter of the conductive pad, and wherein the first dimension is oriented in the direction of highest stress within interconnections formed within the openings of the mask.